Nocturnal positional lumboischialgia : Presenting symptom of lumbar spinal tumours

Hermann, D M ; Barth, A ; Porchet, F ; Hess, C W ; Mumenthaler, M ; Bassetti, C L

DOI: https://doi.org/10.1007/s00415-008-0998-0

J Neurol (2008) 255:1836–1837
DOI 10.1007/s00415-008-0998-0

Dirk M. Hermann
Alain Barth
François Porchet
Christian W. Hess
Marco Mumenthaler
Claudio L. Bassetti

Nocturnal positional lumboischialgia

Presenting symptom of lumbar spinal tumours

Received: 15 January 2008
Received in revised form: 10 April 2008
Accepted: 6 May 2008
Published online: 3 September 2008

Sirs: Lumbar tumours and disc prolapses typically present with lumboischialgia that may be associated with radicular sensorimotor deficits [1]. In disc prolapses, the pain is often evoked by physical activity and typically shows relief during rest, particularly when the patient lies down [1]. In spinal tumours, the relationship with body posture is less clear. We for the first time report four men with lumbar and leg pain presenting mainly during nocturnal rest in recumbent sleeping positions, so that the patients were urged to stand up. In all cases, spinal tumours (three neurinomas, one hemangioblastoma) were found to be responsible.

Patient 1 (53 yrs) presented with over 12 months progressive lumbalgia associated with lancinating pain of the left-sided hip, knee and ankles. The pain typically appeared during night in supine sleeping positions, being almost absent throughout the day. Since the patient was unable to lie on his back, he was often urged to stand up, which resulted in sudden near-complete pain relief. He had no bladder/bowel disturbances. Neurological examination revealed a positive Lasègue sign, but no sensorimotor deficits. Myelography showed a L5 neurinoma that extended laterally into the intervertebral foramen. After surgical removal, pain complaints resolved.

Patient 2 (52 yrs) consulted us with right-sided lumboischialgia progressive over 6 months irradiating into the calf. The pain was most predominant in the second half of the night during bed rest. It considerably improved when sitting up and during daytime physical activity. Pain exacerbation upon Valsalva manoeuvres was noticed. The patient did not have bladder/bowel deficits. Neurological examination did not reveal any focal abnormalities. Lumbar MRI exhibited a right-sided L1 neurinoma that partly involved the intervertebral foramen. After removal, the lower-back pain disappeared. Some residual pain sensations persisted in the dorsal thigh, associated with L1 hypaesthesia.

Patient 3 (42 yrs) complained about burning pain in the left calf, hip and thigh progressive over 3 weeks. One week before admission, analgetic-resistent lumbalgias developed irradiating into both thighs, which were particularly pronounced in bed. Thus, the patient slept in a seated position, which markedly improved his pain. The patient had no bladder/bowel disturbances. Neurological examination revealed no focal abnormalities. Lumbar CT showed an intradural vascular malformation, which was microsurgically resected, turning out to be capillary hemangioblastoma. The back pain resolved. Upon physical distress, short-lasting pain sensations persisted in the left calf and foot, being associated with mild S1 hypaesthesia.

Patient 4 (35 yrs) presented with left-sided lower-leg pain since 3 months, irradiating into the left buttock and thigh over 1 month. This pain was particularly strong during the night in recumbent positions. Therefore, the patient spent most of his time sleeping in an elbow chair. Upon neurological examination, there was a slight hyperpathy of the left thigh and calf. In addition, no sensorimotor deficits or bladder/bowel disturbances were found. Lumbar MRI revealed a left-sided Th12 neurinoma (Fig. 1). After surgical removal, the pain disappeared. A mild hypaesthesia persisted in the left calf.

The stereotypical picture of lumboischialgia without significant sensorimotor deficits, caused by a lower thoracic or lumbar tumour, presenting mainly during the night in patients with supine sleeping positions and urging the patients to stand up or to sleep in a seated position, has not been described. It has been noted previously that low back pain in patients with lumbar tumours may vary to some extent depending on body posture and as such be stronger also in recumbent than upright positions [2]. That spinal neurinomas are particularly prone to induce position-dependent pain symptoms might be due to high prevalence of neurinomas [3] as well as to their localization in

Prof. Dr. D. M. Hermann (✉)
Vascular Neurology, Dementia and Ageing Research
Dept. of Neurology
University Hospital Essen
Hufelandstr. 55
45122 Essen, Germany
Tel.: +49-201/723-2814
Fax: +49-201/723-5534
E-Mail: dirk.hermann@uk-essen.de

D. M. Hermann, MD · C. L. Bassetti, MD
Dept. of Neurology
University Hospital Zurich, Switzerland

A. Barth, MD
Dept. of Neurosurgery
University Hospital Graz, Austria

F. Porchet, MD
Dept. of Neurosurgery
Schulthess Klinik Zurich, Switzerland

C. W. Hess, MD · M. Mumenthaler, MD
Dept. of Neurology
Inselspital Berne, Switzerland

JON 2998

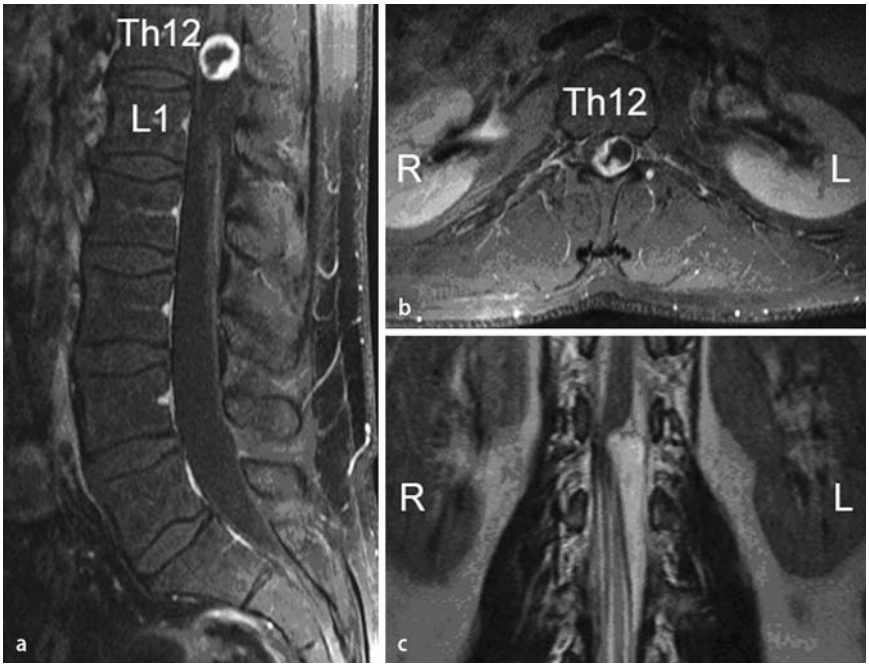

Fig. 1 Spinal MRI revealing a neurinoma of the left Th12 root. The tumour is in close contact with the conus that is shifted towards the right. The patient had severe pain lying in bed, which urged him to sleep in an elbow chair. Contrast-enhanced T1-weighted (**a, b**) and T2-weighted (**c**) images are shown. *R* right; *L* left; *Th12* thoracic vertebra 12; *L1* lumbar vertebra 1

dorsal nerve roots, which makes this tumour particularly apt to cause pain. Positional influences may exert traction on the nerve roots. Although lumbar tumours typically present with sensory deficits (saddle anaesthesia), leg weakness, bladder and bowel dysfunctions (as cauda-equina syndrome) [4, 5], our patients did not reveal the latter complaints. As such, the presence of positional lower-back pain should make the neurologist consider spinal tumours.

Conflict of interest The authors declare no conflict of interest.

References

1. Storm PB, Chou D, Tamargo RJ (2002) Lumbar spinal stenosis, cauda equina syndrome, and multiple lumbosacral radiculopathies. Phys Med Rehabil Clin N Am 13:713–733
2. Náhlovský J (2006) Neurochirurgie. Galén – Karolinum, Prague, p 415
3. Wager M, Lapierre F, Blanc JL, et al. (2000) Cauda equina tumors: a French multicenter retrospective review of 231 adult cases and review of the literature. Neurosurg Rev 23:119–129
4. Orendacova J, Cizkova D, Kafka J, et al. (2001) Cauda equina syndrome. Prog Neurobiol 64:613–637
5. Wippold FJ 2nd, Smirniotopoulos JG, Pilgram TK (1997) Lesions of the cauda equina: a clinical and pathology review from the Armed Forces Institute of Pathology. Clin Neurol Neurosurg 99: 229–234